

THE DANGERS OF GOING TO BED

BY

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It is always assumed that the first thing in any illness is to put the patient to bed. Hospital accommodation is always numbered in beds. Illness is measured by the length of time in bed. Doctors are assessed by their bedside manner. Bed is not ordered like a pill or a purge, but is assumed as the basis for all treatment. Yet we should think twice before ordering our patients to bed and realize that beneath the comfort of the blanket there lurks a host of formidable dangers. In "Hymns Ancient and Modern," No. 23, Verse 3, we find:

"Teach me to live that I may dread
The grave as little as my bed."

It is my intention to justify placing beds and graves in the same category and to increase the amount of dread with which beds are usually regarded. I shall describe some of the major hazards of the bed. There is hardly any part of the body which is immune from its dangers.

Respiratory System.—The maintenance of one position allows the collection of bronchial secretions, which, stagnating in the bases, encourage the development of hypostatic pneumonia. Further, the absence of exercise and the diminished respiratory excursion consequent on bed rest prevent the re-expansion of collapsed or diseased lung.

Blood Vessels.—Thrombosis and thrombo-embolism are some of the most disabling and lethal catastrophes that bed rest can bring to a patient. The absence of leg movements means that the venous blood lacks the helpful squeeze from the muscles which normally speeds its flow, and the flexion of the thighs (particularly when there is Fowler's position or a knee pillow) obstructs it the more. One theory of phlebothrombosis is that it starts with endothelial damage caused by the weight of the leg on the bed compressing emptied calf veins. Thus it may well be said that thrombophlebitis is the internal counterpart of the bed-sore. We may one day regard a thrombosis to be as much a sign of nursing mismanagement as we do the ordinary bed-sore to-day. It is significant that Hunter, Sneedon, and others, performing post-mortem examinations of the veins of the calf in middle-aged and elderly people who had been in bed a considerable time, found thrombosis of the calf veins in 53% of the cases.

Skin.—The frequency and dangers of bed-sores are too well known to need much comment. A large bed-sore in a heavy patient, especially an incontinent one, is a nightmare to the nursing staff, and the pressure points on the heels are often a source of great pain and misery to the patient even if the skin is still unbroken.

Muscles and Joints.—The contraction of some muscles and the stretching of others are complications of rest which may cause considerable crippling. Foot-drop is of course the commonest, and stiffness and flexion of the knee-joints probably the next. The weakness and wasting of the general skeletal musculature and the restriction of the excursion of the joints are often manifest in the hobbling, painful gait of the convalescent patient.

Bones.—When bones are not used the calcium drains from them, and this disuse osteoporosis can be a serious matter, especially in the elderly. Fractures for that reason may take longer to heal, and the absence of weight-bearing is another reason for delayed union. This is shown by George Perkins's recently published cases where the broken ends of bone, when splinted by a metal plate, did not heal until the plate accidentally broke and the resulting increase in weight-bearing led to rapid bony union. The advantages of the Smith-Petersen pin over older methods of managing intracapsular fractures of the femur are largely due to the shorter time in bed.

Renal Tract.—The drain of calcium from the bones that I have just mentioned causes an increased liability to urinary calculi, and both kidney and bladder stones are sometimes in part due to bed rest. Far commoner than this is retention of urine. A patient, particularly a male, with a perfectly normal

urinary tract can find difficulty in using a bottle—probably because of the horizontal position of the body coupled with the nervousness and embarrassment felt on attempting this unnatural, uncomfortable, and unfamiliar method of micturition. In older people this difficulty may lead to acute retention with overflow or to simple incontinence. Bed-sores may develop and keep the patient to bed, so initiating a vicious circle of bedridden incontinence. Prolonged incontinence leads to a deterioration of hygienic morale, and a patient may continue to be incontinent from sanitary sloth rather than urological disease. Getting a patient out of bed may turn him from an incontinent person to a clean one.

Alimentary Tract.—This too is not immune from the bad effects of rest in bed. After a few days minor dyspepsias and heartburn may be noticed; the appetite is often lost. Constipation occurs almost invariably, and even if not of grave significance is often a grievous worry to the patient. Its causes are, first, the absence of muscular movement; secondly, the change of environment (no one can say why this causes constipation, but it does); and, thirdly and most important, the difficulties of evacuating the bowel in a hospital bed-pan. On a bed-pan the patient is unable to use his abdominal muscles and his nearness to fellow-patients discomforts him. Precariously engaged in balancing himself, he sits there, poised unhappily above his own excrement in great dissatisfaction and distress. The constipation of bed rest is most harmful in the aged, where retained scybala may lead to a diarrhoea which marks the underlying obstruction. Retention with overflow is nearly as common at the back as in front. Quite often complete intestinal obstruction can develop from retained faeces, and when enemata fail to shift the scybala digital removal has to be practised—a procedure as unpleasant for the evacuator as for the evacuee.

Nervous System.—It is well known that, particularly in the ataxic diseases such as disseminated sclerosis or tabes dorsalis, even a short spell in bed may produce a deterioration of mobility which takes weeks to overcome, and any length of time in bed may leave a patient bedridden many years before the natural course of the disease would have made him so.

Mental Changes.—Lastly, consider the mental changes, the demoralizing effects of staying in bed. At the start it may produce fussiness, pettiness, and irritability. The patient may acquire an exaggerated idea of the seriousness of his illness and think, "Surely I must be very ill if I am kept in bed?" At a later stage a dismal lethargy overcomes the victim. He loses the desire to get up and even resents any efforts to extract him from his supine stupor. The end result can be a comatose, vegetable existence in which, like a useless but carefully tended plant, the patient lies permanently in tranquil torpidity.

Even the insomnia and nocturnal restlessness so common in hospital patients may be related to the abuse of rest. Too much sleep during the day means too little sleep at night. You may notice that many patients who disturb the ward at night are flat on their backs snoring during the day. They lie in bed with nothing much to do, and we cannot blame them for taking frequent cat naps. I am sure that many hours of half-sleeping and dozing are less beneficial than a few hours of deep sleep, and I believe they encourage a certain confusion of mind.

So much for the commoner hazards of the bed. There are many I have omitted. I have not mentioned the loss of education in children who are long in bed, nor spoken of the dangerous dust that arises during bed-making, but even those evils I have outlined may help to show that rest in bed is anatomically, physiologically, and psychologically unsound. Look at a patient lying long in bed. What a pathetic picture he makes! The blood clotting in his veins, the lime draining from his bones, the scybala stacking up in his colon, the flesh rotting from his seat, the urine leaking from his distended bladder, and the spirit evaporating from his soul.

I have painted a gloomy and unfair picture: it is not as bad as all that. There is much comfort and healing in the bed, and rest is essential in the management of many illnesses. My object has been to disclose the evils of *overdose*, and I want now to indicate briefly how some of them may be avoided or overcome.

First, bed rest should be prescribed and not assumed—that is to say, a sister should not confine the patient to bed without the doctor's ordering it. Secondly, doctors should revise their attitude to rest where it is unsound. In a chronic ward of which I once had charge I found a lady who had been in bed for 17 years with a diagnosis of nervous debility and whitlow. She had survived this remarkable hibernation with little damage, and though she was very upset when I ordered her up she became a different person when she was fully ambulant. It may well be, too, that our attitude to rest in more acute cases could be modified. Rheumatic-fever cases are often kept flat on their backs for a considerable time, although there is no evidence that this modifies the incidence of heart complications and there is good evidence that the work of the heart is increased by the supine position. Patients with coronary thrombosis traditionally have six weeks in bed, but the evidence that this diminishes the incidence of complications is slender. Indeed, Sir James Mackenzie, who had frequent angina after cardiac infarction in 1908, never spent more than a few days in bed, but continued playing golf till his exercise tolerance at last became too small. He lived an active and useful life for 17 years after his first attack.

John Powers, of Cooperstown, New York, reported on 100 consecutive patients who were allowed to sit in a chair and walk on the first day after major operations. He compared them with an equal number who remained in bed for 10 to 15 days and found fewer complications in the first group. Further, the early ambulant cases were back at work within 4.8 weeks as compared with 8.7 weeks in the control group. All these facts encourage us to review the traditional amounts of bed rest that we order our patients.

The third way of avoiding the dangers of bed lies in altering the equipment and arrangement of a ward. There should be a day-room attached to every ward and lockers for patients to keep their ordinary clothes in. Too often a sister puts all her patients back to bed as a housewife puts all her plates back in the plate-rack—to make a generally tidy appearance. Too often patients stay in bed because, shuffling round in slippers and dressing-gown, they are cold and uncomfortable. They would welcome a warm day-room with chairs and books. Some heart cases ought to be allowed to spend most of the day in arm-chairs and to sleep the night in them if they feel much more comfortable that way. For those that have to be in bed a commode might be allowed as an alternative to a bed-pan in most cases. More liberal attention should be paid to breathing exercises, limb-moving, and occupational therapy both to prevent complications and to distract the patient from going to sleep out of sheer boredom.

"Teach us to live that we may dread
Unnecessary time in bed.
Get people up and we may save
Our patients from an early grave."

THE ANATOMY OF SPEECH HUXLEY LECTURE

The Huxley Memorial Lecture was delivered before the Royal Anthropological Institute on Nov. 25 by Dr. W. L. H. Duckworth, of Jesus College, Cambridge. Dr. Duckworth's subject was "Some Complexities of Human Structure," and he took as his text the remark of Huxley in 1865 that anthropology was the science which unravelled such complexities. He confined his review to the organs of speech and the parts of the brain with which speech is associated.

Lips and Tongue

Employment in the production of articulate speech was not the only function performed by the lips; they still played a part in gesture, of which use the South African bushman provided a good example. In spoken and gesture language alike the agents used were the facial muscles. Some eight or nine muscles converged on each side of the two angles of the mouth, where they merged in an area specially responsive to traction exercised by muscle fibres. One group of the muscles concerned was the so-called labial tractors, consisting of fibres entering the substance of the lip almost perpendicularly, from

above or below. Some of these fibres penetrated not only the peripheral fibres of the orbicularis oris but the marginal fibres as well; such penetration was said to provide a contrast between human lips and those of the chimpanzee, in which the marginal fibres were barely reached. The variety of movements around the aperture of the mouth was no less important than the variety of parts found in the mechanism. These movements were essentially skilled, and it was permissible to suppose that in future they would become very much more skilled than at present.

Comparison of the tongue in the various types of mankind rested mainly on observations of the sensory papillae distributed over its surface. The papillae combined in lines to reproduce the letters V or Y, but the angle at which the divergent arms of the letter were inclined to one another was subject to considerable variation and to interruption. The tongue, like the lips, could be protruded and withdrawn, and comparative anatomy suggested that these movements appeared early in the evolutionary history of the tongue or its representatives. The connexions both of the intrinsic and extrinsic muscles deserved further exploration. More than half a century ago Macalister declared that there was reason to believe that the musculature of the tongue varied in different races—a statement which did not seem to have been disproved.

Lower Jaw, Soft Palate, and Larynx

The lower jaw had been very fully studied. In articulated speech the movements of the jaw evidently involved certain muscles whose study was inseparable from that of the bone itself. Some of these muscles made no direct connexion with the tongue, while others entered the substance of the tongue as its extrinsic muscles. The lecturer added that evaluation of the human lower jaw had not been rendered more simple by acquiescence in the view that the Piltdown mandible belonged to an individual whose brain, as inferred from the skull, suggested, if it did not prove, endowment with human speech.

The soft palate combined with the hard palate and the tongue in contributing to the production of speech. Its tendency to assert its existence in snoring was almost pathological. Study of comparable sections from the soft palate of an Australian aboriginal and an African negro had not so far provided any suggestion of specific peculiarities.

The larynx appeared to be simply constructed, but its parts were numerous. The intersection and interlacement of the fibres of the thyro-arytenoid muscles were now known to be much more complex than was previously believed. The importance of the muscle was evident in view of its close relation to the vocal fold, for it was thus at the very source of sound production in the larynx.

Reviewing these various vocal organs as a whole, the lecturer said that it was worth while inquiring whether they displayed any similarity in their structural complexity. In the lips, the soft palate, and the vocal folds alike muscular fibres were conspicuous, and with a slight exception all were of the striate variety. In each instance they tended to surround a passage or cavity the width or dimensions of which they varied by their action or relaxation. The tongue was different in some respects, but it would not be impossible to present the tongue as an example of extraordinary specialization of the muscular tissue surrounding the cavity of the mouth, while as to the mandible this was an ossification in a great sheet of muscle stretching from one temporal region to the other. While a general agreement of scheme might thus appear, a marvellous amount of differentiation accompanied it.

Speech Centres

Turning finally to the parts of the brain associated with speech, Dr. Duckworth spoke particularly of two areas in the left cerebral hemisphere (in right-handed persons), namely, on the frontal lobe, mainly in front of the central sulcus, and on the parietal lobe, comprising the supra-marginal, angular, and posterior parietal convolutions. Disintegration of the first of these areas affected speech strongly, if it did not always abolish it. There was failure to co-ordinate the contributions of the lips, tongue, and soft palate, and vocalization became a continuous cry or grunt, not controlled by the patient. Persons suffering from disease of the left posterior parietal